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(57) Abstract: Method of Producing Sol-gels and Sol-gel Biosensors. The invention discloses a method of producing a layer of sol-gel on a substrate comprising the steps of: (a) providing a acidified sol suspension; (b) at least partially neutralising the acidified sol suspension to form a neutralised sol suspension; (c) contacting an electrically conductive surface with the neutralised sol suspension; and (d) applying an electrical potential to the electrically conductive surface to cause a layer of sol-gel to form on the surface of the electrically conductive surface. Preferably, the neutralised sol-gel has a biological material, such as an enzyme added. Biosensors obtained by using the method are also provided.

# INTERNATIONAL SEARCH REPORT

International Application No

GB 03/04984

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C12Q1/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, EMBASE

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|----------|--|-----------------------|
| X        | <p>AVNIR D ET AL: "ENZYMES AND OTHER PROTEINS ENTRAPPED IN SOL-GEL MATERIALS" CHEMISTRY OF MATERIALS, AMERICAN CHEMICAL SOCIETY, WASHINGTON, US, vol. 6, 1994, pages 1605-1614, XP000938822 ISSN: 0897-4756 page 1608, column 2, paragraph 2 page 1609, column 1, paragraph 1</p> <p>---</p> <p style="text-align: center;">-/--</p> | 27, 29, 30            |

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|----------|--|-----------------------|
| A        | SHACHAM R ET AL: "ELECTRODEPOSITION OF METHYLATED SOL-GEL FILMS ON CONDUCTING SURFACES"<br>ADVANCED MATERIALS, VCH<br>VERLAGSGESELLSCHAFT, WEINHEIM, DE,<br>vol. 11, no. 5,<br>22 March 1999 (1999-03-22), pages 384-388,<br>XP000827258<br>ISSN: 0935-9648<br>cited in the application<br>the whole document<br>--- | 1-30                  |
| A        | US 6 303 290 B1 (LIU DEAN-MO ET AL)<br>16 October 2001 (2001-10-16)<br>cited in the application<br>claim 1<br>---  | 1-30                  |
| A        | WO 99/10743 A (UNIV CALIFORNIA)<br>4 March 1999 (1999-03-04)<br>page 44, line 23 -page 45, line 15<br>---  | 1-30                  |

## INTERNATIONAL SEARCH REPORT

Information on patent family members

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| Patent document cited in search report | Publication date | Patent family member(s) |   | Publication date   |
|--|------------------|-------------------------|---|--|
| US 6303290                             | B1               | 16-10-2001              | NONE  |  |
| WO 9910743                             | A                | 04-03-1999              | US 6022748 A<br>AU 9211698 A<br>CA 2301561 A1<br>EP 1002234 A1<br>WO 9910743 A1<br>US 6306598 B1<br>US 6485987 B1<br>US 2001026915 A1 | 08-02-2000<br>16-03-1999<br>04-03-1999<br>24-05-2000<br>04-03-1999<br>23-10-2001<br>26-11-2002<br>04-10-2001 |